

Remarks

Claims 1, 3-5, 8-13, 15, 47, 52-56, and 59-62 are before the Examiner for consideration.

Rejection Under 35 U.S.C. §102(b)/ §103(a)

Claims 52, 55, 56, and 59-62 have been rejected under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C §103 (a) as obvious over U.S. Patent No. 5,892,187 to Patrick ("Patrick").

In particular, the Examiner asserts that Patrick discloses a liner/insulator that includes a base layer of fibrous material and a plurality of cubed, fibrous ribs that extend from and which are bonded to the base layer. The Examiner further asserts that in the event that it is shown that the applied prior art does not disclose the claimed embodiment with sufficient specificity, the invention is obvious because the prior art specifically discloses the claimed constituents.

Also, in the Response to Arguments the Examiner states that Patrick illustrates a uniform base layer (10) with a plurality of ribs (12) projecting outwardly and positioned exterior to the uniform base layer. The Examiner further states that Patrick discloses that the cavities can be in the shape of a cube (column 4, lines 52 – 67). The Examiner asserts therefore, the plurality of ribs (12) projecting outwardly and positioned exterior to the uniform base layer are a cubed shape.

Applicants respectfully disagree with these assertions as outlined below.

Patrick discloses a support member (12) which incorporates a plurality of resonant cavities (16), and that it is specifically the resonant cavities which "can be in the shape of a ... cube." (column 4, lines 57 – 58). Patrick teaches that "possible support member compositions include almost any thermoplastic material ... or even perforated craft paper such as corrugated paper, for example." (column 4, lines 43 – 51) Patrick thus neither teaches nor suggests that support member (12) includes "fibrous ribs," let alone that the fibrous ribs themselves are "formed of a cubed fibrous material" as recited in Claim 52.

Other than teaching "a support member to which the bulk layer is suitably attached by an adhesive or other means" (column 2, lines 29-30), Patrick is silent as to how support member (12) is physically connected to bulk layer (10). Patrick

therefore neither teaches nor suggests fibrous ribs which are "thermally bonded to the base layer" as recited in Claim 52.

Given the above, Applicants respectfully submit that Patrick fails to teach or suggest "fibrous ribs formed of cubed fibrous material ... thermally bonded to said base layer" as recited in Claim 52. Nor is it obvious, absent Applicants' disclosure, how the teachings of Patrick could be modified to arrive at Applicants' invention. Applicants therefore submit that Claim 52 is in condition for allowance. Claims 55, 56, and 59 - 62 depend from Claim 52 and are therefore also in condition for allowance.

Regarding Claim 59, the Examiner asserts Patrick discloses that the ribs may be made of scrap fibrous material (column 2, line 47-53). Applicants submit that this section of Patrick only teaches that "the invention can be made from wholly recyclable materials". Applicants submit that the mere fact that something is recyclable does not mean that the article itself is made of recycled material. As noted above, Patrick fails to teach or suggest that support member (12) is a fibrous rib, let alone "made of scrap fibrous material" as recited in Claim 59.

Regarding Claim 60, the Examiner concludes that Patrick discloses a base layer tuned to provide improved acoustical properties (column 4, lines 5-13) and the plurality of ribs inherently provide strength to said liner/insulator. Applicants respectfully submit that Column 4, lines 5-13 of Patrick discuss only the material properties of bulk layer (10), and make no reference to tuning. Applicants submit that Patrick refers to tuning only with respect to a resonator (22), formed by a backing sheet (20), support member (12), and orifice(s) (18) (see for example column 1, lines 65-67; column 2, line 10 and line 17; column 7, lines 52 and 59-60). Patrick thus fails to teach or suggest a "base layer tuned to provide improved acoustical properties" as recited in Claim 60.

Regarding Claim 62, the Examiner asserts Patrick discloses that the base layer is a uniform base layer (see Figures). Applicants submit that Patrick teaches a bulk layer (10) of fibrous material attached to one side of a support member (12). (see for example, column 3, lines 17-20 and column 4, lines 5-8). The support member (12) is embossed with a pattern of hemispheres or other surfaces that form a plurality of resonator cavities. (see for example, column 3, lines 20-22). Thus, the

bulk layer (10) has an undulating, uneven surface, as is depicted in Figures 1-3. Applicants respectfully submit that the irregular surface of the bulk layer (10) in Patrick is vastly different from the "uniform base layer" recited in Claim 62.

Rejection Under 35 U.S.C. §103(a)

Claims 1, 3-5, 8-13, 15, 47, 53, and 54 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,497,950 to Patrick ("Patrick") as applied to claims 52, 55, 56, and 59-62 above, and further in view of U.S. Patent No. 5,855,390 to Alkire, *et al.* ("Alkire").

In the second paragraph of Section 9 of the Office Action, i.e. in the Response to Arguments, the Examiner states that Patrick illustrates a uniform base layer (10) with a plurality of ribs (12) projecting outwardly and positioned exterior to the uniform base layer.

As Applicants note above, Patrick teaches that "possible support member compositions include almost any thermoplastic material ... or even perforated craft paper such as corrugated paper, for example." (column 4, lines 43 – 51) Patrick thus neither teaches nor suggests support member (12) being comprised of "ribs of a fibrous material," as recited in Claim 1.

As Applicants mention above, other than teaching "a support member to which the bulk layer is suitably attached by an adhesive or other means" (column 2, lines 29-30), Patrick is silent as to how support member (12) is physically connected to bulk layer (10). Patrick therefore neither teaches nor suggests that support member (12) is "thermally bonded to said base layer" as recited in Claim 1.

Referring now to Section 5 of the Office Action and to the fourth paragraph of Section 9 of the Office Action, the Examiner asserts that Patrick discloses that the base layer and plurality of ribs are formed of polyester and/or glass fibers (column 4, lines 5-13), and concedes that Patrick does not mention specific glass fibers. In this regard, Alkire is cited for assertedly teaching the use of glass staple bicomponent fibers to reduce cost, process with less effort, and/or improve performance characteristics. The Examiner concludes that it would have been obvious to one of skill in the art to have included glass staple bicomponent fibers in Patrick motivated by a desire to reduce cost, process with less effort, and/or to improve performance

characteristics and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

Applicants submit that Alkire teaches "irregularly shaped glass fibers, preferably bi-component fibers *unblended with other fibers*" (emphasis added, column 2, lines 32-33). This teaches away from Applicants' invention wherein the "base layer ... and ... ribs ... are selected from the group consisting of

- (a) thermoplastic polymer staple fibers and thermoplastic bicomponent fibers,
- (b) glass staple fibers and glass bicomponent fibers,
- (c) glass staple fibers and thermoplastic bicomponent fibers and
- (d) a combination of (a), (b) and (c)"

as recited in Claim 1 and Claim 53. Applicants submit that one of ordinary skill in the art would therefore not look to Alkire for a liner/insulator having bi-component fibers in combination with other fibers as recited in Claim 1 and Claim 53.

Regarding Claim 13, the Examiner states Patrick discloses that the ribs may be of scrap fibrous material (column 2, line 47-53). As discussed above, this section of Patrick specifically teaches that "the invention can be made from wholly recyclable materials". Applicants submit that the mere fact that something is recyclable does not mean that the article itself is made of recycled material. Patrick thus fails to teach or suggest that support member (12) is a fibrous rib, let alone "made of scrap fibrous material" as recited in Claim 13.

In view of the above, it is respectfully submitted that claims 1 and 53 are not taught or suggested by Patrick or Alkire, either alone or in combination, and that claims 1 and 53 are therefore non-obvious and patentable. Applicants submit that because claims 1 and 53 are not taught or suggested by Patrick and/or Alkire, dependent claims 3-5, 8-13, 15, 47 and 54 are also therefore non-obvious and patentable.

Accordingly, Applicants respectfully submit that claims 1, 3-5, 8-13, 15, and 47, 53, and 54 are not obvious over Patrick in view of Alkire and respectfully request that this rejection be reconsidered and withdrawn.

Rejection Under 35 U.S.C. §103(a)

Claims 1, 3, 5, 9-13, and 15 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,497,950 to Haile, *et al.* ("Haile") in view of U.S. Patent No. 5,660,908 to Kelman, *et al.* ("Kelman").

In Section 6 of the Office Action, the Examiner asserts that Haile teaches that it is known in the headliner art to use thermoplastic bicomponent staple fibers and glass staple fibers. The Examiner admits that Haile does not teach specific headliner designs. In this regard, Kelman is cited for assertedly teaching a headliner that includes a base layer of fibrous material and a plurality of ribs thermally bonded to the base layer. The Examiner concludes that it would have been obvious to one of skill in the art to make the headliner of Haile in the design disclosed by Kelman.

In the fifth paragraph of Section 9 of the Office Action, i.e. in the Response to Arguments, the Examiner further states that Kelman illustrates a plurality of ribs (18) that project outwardly and are positioned exterior to a uniform base layer (portion of layer (12) excluding ribs (18)) (see Figures).

As noted previously, Kelman specifically teaches that between the corrugations (18) and the batt front side (14) are areas of "reduced batt thickness and correspondingly higher batt fiber density" (column 2, lines 42-46). Applicants submit that the corrugations (18) identified by Kelman are merely part of the fibrous batt (12) that has not been compressed into regions of higher density (24). Consequently, they cannot be considered to be ribs corresponding to the ribs of the present invention which are positioned exterior to and are thermally bonded to the uniform base layer.

Applicants further submit that Kelman's figures show that polymeric fiber batt (12) is neither uniform inside (see pattern of dots in Figure 2) nor on its surface. Applicants submit that Kelman's Figure 2 shows that even the portions of fiber batt (12) excluding corrugations (18) still have an uneven surface of thick and thin portions. Further, Kelman specifically teaches "batt (12) is formed into a downwardly-opening concave configuration" (column 2, lines 20-21).

Thus Kelman fails to teach or suggest a liner/insulator having a "uniform base layer of fibrous material", let alone a liner/insulator having "ribs of fibrous material ...positioned exterior to said uniform base layer...thermally bonded to said base layer" as recited in Claim 1.

Haile is silent as to any teaching or suggestion of a base layer, ribs, and headliner design, and thus cannot make up for the deficiencies of Kelman. As such, Applicants respectfully submit that the combination of the teachings of Kelman and Haile would not result in the liner/insulator of Claim 1. Accordingly, it is respectfully submitted that this rejection of Claim 1 must fail.

In view of the above, Applicants respectfully submit that independent Claim 1 is not taught or suggested by Haile and Kelman, either alone or in combination, and that Claim 1 is therefore non-obvious and patentable. Applicants further submit that because Claim 1 is not taught or suggested by Haile and Kelman, dependent claims 3, 5, 9-13, and 15 are also therefore non-obvious and patentable.

Accordingly, Applicants respectfully submit that claims 1, 3, 5, 9-13, and 15 are not obvious over Haile in view of Kelman and respectfully request that this rejection be reconsidered and withdrawn.

Rejection Under 35 U.S.C. §103(a)

Claims 4 and 8 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,497,950 to Haile, *et al.* ("Haile") in view of U.S. Patent No. 5,660,908 to Kelman, *et al.* ("Kelman") as applied to claims 1, 3, 5, 9-13, and 15 above, and further in view of U.S. Patent No. 5,892,187 to Patrick ("Patrick"). The Examiner admits that Kelman is silent with respect to any teaching of the distance between the ribs and the width of the ribs. The Examiner concludes Patrick teaches that it is known in the headliner art to vary the distance between the ribs and the width of the ribs based on the desired sound or noise to be attenuated. In addition, the Examiner asserts that Patrick teaches that the width of the ribs may be about 22 mm or less (0.87 inches or less) and illustrates a distance between the ribs equal to the specifically mentioned rib width (column 5, lines 44-57 and Figures 1-3). The Examiner concludes that it would have been obvious to one of skill in the art to space the ribs at least about 0.25 inches and to have a width of about 0.5 to 3.0

inches with the expectation of successfully practicing the invention based on the desired sound or noise to be attenuated.

Applicants submit that Patrick teaches "resonator (22), formed by backing sheet (20), support member (12), and orifices (18), has a resonant frequency set by its geometry including: ... the resonant cavity volume" (column 5, lines 28-31). The dimensions of support member (12) are thus set by the requirements of resonator (22) having orifices (18), features neither taught nor claimed by the Applicants. Applicants submit that if it is necessary to combine the teachings of Haile, Kelman and Patrick as applied to claims 1, 3, 5, 9-13, and 15, and then throw in a subjective reading of Patrick's figures, figures which may or may not be to scale, then Claim 4 is clearly unobvious. Only by using a hindsight reconstruction of Applicants' invention would one of ordinary skill in the art arrive at the claimed invention as recited in Claim 4.

Rejection Under 35 U.S.C. §103(a)

Claim 47 has been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,497,950 to Haile, *et al.* ("Haile") in view of U.S. Patent No. 5,660,908 to Kelman, *et al.* ("Kelman") as applied to claims 1, 3, 5, 9-13, and 15 above, and further in view of U.S. Patent No. 5,885,390 to Alkire, *et al.* ("Alkire"). The Examiner asserts that Haile teaches that it is known in the headliner art to use thermoplastic bicomponent staple fibers and glass staple fibers. The Examiner admits that Haile does not teach glass staple fibers and glass bicomponent fibers. In this regard, Alkire is cited for assertedly teaching that it is known to use glass staple bicomponent fibers to reduce cost, process with less effort, and and/or improve performance characteristics (see entire document including column 1 through column 2, line 42 and column 7, lines 5-13). The Examiner concludes that it would have been obvious to one of skill in the art to include glass staple bicomponent fibers to reduce cost, process with less effort, and/or improve performance characteristics.

Applicants submit that Alkire teaches "irregularly shaped glass fibers, preferably bi-component fibers *unblended with other fibers*" (emphasis added, column 2, lines 32-33). This teaches away from Applicants' invention "wherein said

fibrous material is formed of glass staple fibers and glass bicomponent fibers" as recited in Claim 47.

In view of the above, Applicants submit that claim 47 is not obvious over Haile, Kelman and Alkire and respectfully request that the Examiner reconsider and withdraw this rejection.


Conclusion

In light of the above, Applicants believe that this application is now in condition for allowance and therefore request favorable consideration.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

If necessary, the Commissioner is hereby authorized to charge payment or credit any overpayment to Deposit Account No. 50-0568 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,



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